

Title (en)

Fiber optic gyroscope with hard potted sensor coil

Title (de)

Lichtleitfaserkreisel mit hart eingegossener Aufnehmerspule

Title (fr)

Gyroscope à fibre optique avec une bobine caprice fondue durcie

Publication

EP 0694761 B1 20001004 (EN)

Application

EP 94305592 A 19940728

Priority

- EP 94305592 A 19940728
- US 93829492 A 19920831

Abstract (en)

[origin: US5371593A] A sensor coil for a fiber optic gyroscope. The coil is formed on a spool of carbon composite material or of another material whose coefficient of thermal expansion approximates that of the overlying windings of the glass optical fiber. The windings are potted in an adhesive material. Various bias effects are addressed by the coil design. The close matching of the thermal expansion characteristics of the spool and the fiber windings as well as proper selection of the coil potting material minimize the Shupe-like bias caused by thermal stress that would be otherwise exerted by a standard metallic spool. By careful selection of potting material (particularly its modulus of elasticity) vibration-induced bias, coil cracking, degradation of h-parameter and temperature-ramp bias sensitivity are also minimized.

IPC 1-7

G01C 19/72; **G02B 6/44**

IPC 8 full level

G01C 19/72 (2006.01); **G02B 6/44** (2006.01)

CPC (source: EP US)

G01C 19/722 (2013.01 - EP US); **G02B 6/4457** (2013.01 - EP US)

Citation (examination)

EP 0694760 A1 19960131 - LITTON SYSTEMS INC [US]

Cited by

WO2004020949A1; CN108955727A; EP1355173A4; WO0036441A3

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